UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,966	03/02/2004	Santosh P. Gaur	RPS920020014US1	2143

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EXAMINER
KANE, CORDELIA P

ART UNIT	PAPER NUMBER
2132	

NOTIFICATION DATE	DELIVERY MODE
07/09/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
	10/790,966	GAUR ET AL.
Office Action Summary	Examiner	Art Unit	
	CORDELIA KANE	2132	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>07 May 2008</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-26</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-26</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 7,

2008 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 1 – 26 have been considered but

are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

3.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

4.   Claims 1, 2, 4 – 7, 9, 12 – 16, 20 – 25 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Noehring, and further in view of Banker et al's US Patent

5,357,276.

5.   Referring to claim 1, Noehring teaches:

        a.   A memory controller configured to transfer data received from the network

        to the memory (page 2, paragraph 37).

    b.   A network interface coupled to the memory controller comprising:

        i.   A first data moving unit configured to exchange secure data with a first portion of the network and a second DMU configured to exchange non-secure data with a portion of the network (page 3, paragraph 43, Figure 5). Since the inbound and outbound packets are IP packets, and clear text packets respectively and they may be split into a dedicated mode with dedicated channels for each one.

    c.   Logic configured to retrieve a portion of the data from the memory using the memory controller (page 2, paragraph 37).

    d.   Logic configured to perform security operations on the retrieved portion of the data (page 2, paragraphs 37-38).

    e.   Logic configured to store the operated on portion of the data in memory using the memory controller wherein the memory controlled is further configured to transfer the operated on portion of the data from memory to the network (page 2-3, paragraph 38).

6.   Noehring does not explicitly disclose the priority of the information flow being independent of an order in which the data was stored in memory. However, Banker discloses prioritizing the memory control for real time applications (column 7, lines 43-46). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Noehring and Banker before him or her, to modify the memory access of Noehring to include the priority of real time applications of Banker, so that the real time applications could be performed in real time.

7.   Referring to claim 2, Noehring teaches that the first and second DMU directly
communicate with the first and second portions of the network (Figure 5, 528 and 562).

8.   Referring to claim 4, Noehring teaches:

     f.   Logic configured to obscure the portion of the data when the retrieved
     portion is non-secure data (Figure 5, 518).

     g.   Logic configured to decipher the portion of the data when the retrieved
     portion is secure data (Figure 5, 546).

     h.   Logic configured to determine an integrity of the portion of data (pages 2-
     3, paragraph 38).

9.   Referring to claim 5, Noehring teaches performing quality of service operations
on the data in coordination with the performing of security operations (pages 2-3,
paragraph 38).

10.   Referring to claim 6, Noehring teaches logic configured to identify an information
flow associated with the portion of data, to determine the priority of that portion of data,
and to schedule transferring the operated on portion of the data from memory based on
the priority information (page 5, paragraph 58).

11.   Referring to claim 7, Noehring teaches:

     i.   Logic configured to decipher the portion of the data prior to identifying the
     information flow when the retrieved portion is secure data (figure 5, 546, 550,
     page 3, paragraph 38).

j.   Logic configured to obscure the portion of the data after identifying the

information flow when the retrieved portion is non-secure data (Figure 5, 518,

520).

12.   Referring to claims 9 and 21, Noehring teaches referencing the memory banks in

a sequence that minimizes memory access time (page 3, paragraph 42).

13.   Referring to claims 12 and 22, Noehring teaches:

k.   Transferring data received from the network to the memory (page 2,

paragraph 37).

l.   Retrieving a portion of the data from the memory using the memory

controller (page 2, paragraph 37) wherein the portions of the data having higher

priority information flow are retrieved before portions having lower priority (page

5, paragraph 58).

m.   Performing security operations on the retrieved portion of the data (page

2, paragraphs 37-38).

n.   Storing the operated on portion of the data in memory using the memory

controller wherein the memory controlled is further configured to transfer the

operated on portion of the data from memory to the network (page 2-3,

paragraph 38).

14.   Noehring does not explicitly disclose the priority of the information flow being

independent of an order in which the data was stored in memory. However, Banker

discloses prioritizing the memory control for real time applications (column 7, lines 43-

46). At the time of the invention, it would have been obvious to one of ordinary skill in

the art, having the teachings of Noehring and Banker before him or her, to modify the
memory access of Noehring to include the priority of real time applications of Banker, so
that the real time applications could be performed in real time.

15.   Referring to claims 13 and 23, Noehring teaches:

  o. Obscuring the portion of the data when the retrieved portion is non-secure
  data (Figure 5, 518).

  p. Deciphering the portion of the data when the retrieved portion is secure
  data (Figure 5, 546).

  q. Determining an integrity of the portion of data (pages 2-3, paragraph 38).

16.   Referring to claims 14 and 24, Noehring teaches performing quality of service
operations on the data in coordination with the performing of security operations (pages
2-3, paragraph 38).

17.   Referring to claims 15, and 25, Noehring teaches logic configured to identify an
information flow associated with the portion of data, to determine the priority of that
portion of data, and to schedule transferring the operated on portion of the data from
memory based on the priority information (page 5, paragraph 58).

18.   Referring to claim 16, Noehring teaches:

  r. Logic configured to decipher the portion of the data prior to identifying the
  information flow when the retrieved portion is secure data (figure 5, 546, 550,
  page 3, paragraph 38).

s.   Logic configured to obscure the portion of the data after identifying the

information flow when the retrieved portion is non-secure data (Figure 5, 518,

520).

19.   Referring to claim 20, Noehring teaches including error correcting code with the

data transferred to or stored in the memory and detecting errors in the data retrieved or

transferred from the memory based on the error correcting code included with the data

(page 7, paragraph 79).

20.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noehring

in view of Banker as applied to claim 1 above, and further in view of Kocaman. Noehring

in view of Banker discloses all the limitations of the parent claim. Noehring in view of

Banker does not explicitly disclose having a SERDES circuit coupled between the DMU

and the network. However, Kocaman discloses that it is known that network

components include a serializer-deserializer to convert the serial stream of data into

parallel and parallel into serial (page 1, paragraph 5). Noehring in view of Banker and

Kocaman are analogous art because they are from the same field of endeavor, network

processing. At the time of the invention, it would have been obvious to one of ordinary

skill in the art, having the teachings of Noehring in view of Banker and Kocaman before

him or her, to modify the system of Noehring in view of Banker to include the serializer-

deserializer of Kocaman. The motivation for doing so would have been that it is well

known in the art (page 1, paragraph 5).

21.   Claims 8, 17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Noehring in view of Banker as applied to claims 1, 12 and 22 above, and further in

view of Nozawa. Noehring in view of Banker discloses all the limitations of the parent

claims. Noehring in view of Banker does not explicitly disclose compressing and

decompressing data before and after encryption. However, Nozawa discloses:

      t.   Compressing the data prior to encrypting the data (column 3, lines 29-32).

      u.   Decompressing the data after decrypting the data (claims 11 and 12).

22.   Noehring in view of Banker and Nozawa are analogous art because they are

from the same field of endeavor, encrypted data storage and retrieval. At the time of the

invention, it would have been obvious to one of ordinary skill in the art, having the

teachings of Noehring in view of Banker and Nozawa before him or her, to modify the

process of Noehring in view of Banker to include the compression of Nozawa. The

motivation for doing so would have been to not lose the redundancy of data in a large

quantity of data (column 3, lines 26-38).

23.   Claims 10, 11, 18 and 19 are rejected under 35 USC 103 (a) as being obvious

over Noehring in view of Banker and further in view of Trost. Referring to claims 10 and

18, Noehring in view of Banker discloses all the limitations of the parent claim. Noehring

in view of Banker does not appear to explicitly disclose grouping the memory requests

together. However, Trost discloses grouping the memory requests together and not

starting the second group before the first group is completed (column 2, lines 5-8).

Noehring in view of Banker and Trost are analogous art because they are from the

same field of endeavor of memory access. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Noehring in view of Banker and Trost before him or her, to modify Noehring in view of Banker to include grouping read and write requests, then completing one group before the other of Trost. The motivation for doing so would have been to eliminate the time gap between the groups of requests (column 1, lines 42-45).

24.   Referring to claim 11, Noehring teaches including error correcting code with the data transferred to or stored in the memory and detecting errors in the data retrieved or transferred from the memory based on the error correcting code included with the data (page 7, paragraph 79).

25.   Referring to claim 19, Noehring teaches receiving (reading) data packets from memory in predetermined byte sizes (page 3, paragraph 42).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CORDELIA KANE whose telephone number is (571)272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. K./
Examiner, Art Unit 2132

/Benjamin E Lanier/
Primary Examiner, Art Unit 2132